1.0 PURPOSE AND SCOPE

This standard provides guidance for meeting requirements for handling materials that pose a potential carcinogenic hazard. It is the WRPS policy to maintain exposures to carcinogens as low as reasonably achievable (ALARA). (5.1.2)

This standard establishes the minimum requirements and guidance for the purchase, use, storage and handling of the Occupational Safety and Health Administration (OSHA) (5.1.1) regulated carcinogens, specific carcinogens, and the known human and suspect human carcinogens listed by the American Conference of Governmental Industrial Hygienists (ACGIH) (5.1.3) for all Washington River Protection Solutions LLC (WRPS) employees. Chemicals for laboratory use covered by the 222-S Laboratory Complex Chemical Hygiene Plan (ATS-310, section 4.5) are not covered by this program.

Asbestos is not covered by this program.

2.0 IMPLEMENTATION

This standard is effective on the date shown in the header.

3.0 STANDARD

1. The group planning to use a carcinogenic material must first contact the area support industrial hygienist who will assist the group in:

   - Determining that there are no practical substitutes.
   - Determining if, based on usage quantities and activities, product specific operating procedures for safe use and disposal of the material shall be required for this material. (As required, these procedures shall include emergency procedures should a spill or a major release occur.)
   - Helping with training, as necessary.
   - Obtaining approval of the final program.

2. The operational organization intending to use the carcinogen containing material, with assistance from the organization's industrial hygienist must determine whether the carcinogenic material contains an OSHA regulated or OSHA specific carcinogen and ensure that the requirements of the applicable OSHA standard are implemented.

3. Once use of a specially regulated carcinogen begins, the user/handler shall be responsible for requirements under this program, including:

   - Notifying Waste Management when disposal of the carcinogen is necessary.

- Providing Industrial Hygiene a current list of employees authorized to work with the carcinogen, and provide an annual update of the list.

- Reviewing the use of the carcinogen on an annual basis, and substituting a non-carcinogenic material, when available.

4. All TOC facilities that store or use carcinogens shall keep a current carcinogen inventory, and have it readily available. The inventory shall include the following:

   - Carcinogen product name
   - Material Safety Data Sheet (MSDS) number
   - Storage and use location
   - Volume on hand
   - Specification if the carcinogen is OSHA regulated (see Attachments A and B). (5.1.1)

5. A regulated area must be established where each regulated carcinogen is used, or where the use of specific carcinogens results in exposure greater than the permissible exposure level, short term exposure limit (STEL), or excursion level. The manager responsible for each regulated work area shall consult Industrial Hygiene to obtain assistance in determining exposure potential and the need for monitoring and controls.

6. Authorized personnel working in a regulated carcinogen work areas are required to:

   - Have a baseline medical exam, with specific notation of that regulated or specific carcinogen

   - Be placed on a medical surveillance program specific for each regulated or specific carcinogen.

7. All employees who work with, or are potentially exposed to, carcinogens must be provided with documented, facility-specific training. Hazard Communication Program facility-specific training can satisfy this requirement.

8. A carcinogen label (store stock item #37-4300-206) shall be placed on all materials determined by the industrial hygienist to pose a potential carcinogen exposure hazard.

9. All regulated work areas shall be posted with the appropriate warning sign. (OSHA approved signs, 7" x 10", are available by purchase requisition from Stores.)

   DANGER
   CHEMICAL CARCINOGEN
   AUTHORIZED PERSONNEL ONLY
   DANGER
   CANCER SUSPECT AGENT
   AUTHORIZED PERSONNEL ONLY

10. A written justification is required to procure products determined by the industrial hygienist to pose a carcinogen exposure hazard and Hanford material safety data sheet number shall be referenced on the requisition. Industrial Hygiene approves requisitions

for carcinogens by signing the requisition. The written justification is retained as part of the requisition package.

NOTE: Figure 1 provides a sample justification that can be used.

11. Employees must wash after using or handling regulated carcinogens.

12. Eating, drinking, chewing, and food utensil storage is prohibited in work areas where carcinogenic materials are being used or stored.

4.0 DEFINITIONS

Action level. Fifty percent of the permissible exposure level or the threshold limit value, whichever is most restrictive. The action level is established to ensure an adequate margin of safety, and is used by the industrial hygienist in determining the necessity for specific engineering, work practices, and personal protective equipment controls, to reduce employee exposure.

Authorized personnel only. Any person whose duties required entering a regulated area and have been trained according to risk of exposure.

Carcinogen. Material with sufficient or limited evidence of carcinogenicity from studies of humans indicated a casual relationship between the agent and human cancer (either by OSHA or ACGIH). The carcinogen list can be obtained from Industrial Hygiene.

Occupational exposure level. The occupational exposure level is the most restrictive of permissible exposure level or the threshold limit value. This is the reference point from which Industrial Hygiene maintains control of the concentration of atmospheric contaminants in the work environment. These limits are used to assist in control of health hazards; they are not a fine line between safe and dangerous concentrations.

Regulated area. An area designated by the supervisor or manager in which area entry and exit are restricted and controlled because of the use of carcinogens.

Regulated carcinogen.

OSHA regulated carcinogens that meet the criteria as stated in the OSHA standards in Appendix 2.2a. (5.1.1)

Specific Carcinogens. Carcinogens which require the establishment of a regulated area when employee exposure to airborne concentration may exceed the permissible exposure level, excursion limit, or STEL.

5.0 SOURCES

5.1 Requirements

1. 10 CFR 851, "Worker Safety and Health Program."

2. 29 CFR 1910, Subpart Z – "Toxic and Hazardous Substances."

3. American Conference of Governmental Industrial Hygienists (ACGIH), Carcinogen List.

5.2 References

1. WRPS-PER-2009-0899.

2. ATS-310, Section 4.5, “222-S Laboratory Complex Chemical Hygiene Plan.”

Figure 1. Carcinogen Procurement/Use Justification.

Product Name

Estimate Annual Usage

MSDS # _____ (Provide a copy of MSDS)

Describe efforts to locate a less hazardous product.

Description of use:

_____ _____ ___/___/___

Signature of Person Submitting Request Title Date

_____

Organization Code

Safety and Health (i.e., IH) Signature Approval/Date _____

ATTACHMENT A - OSHA REGULATED CARCINOGENS IN 29 CFR 1910

(5.1.1)

Compound	CAS Number	Reference
4-Nitrobiphenyl	92-93-3	29 CFR 1910.1003
α-Naphthalene	134-32-7	29 CFR 1910.1004
Methyl chloromethyl ether	107-30-2	29 CFR 1910.1006
3, 3'-Dichlorobenzidine, salts	91-94-1	29 CFR 1910.1007
Bis-Chloromethyl ether	542-88-1	29 CFR 1910.1008
β-Naphthalene	91-59-8	29 CFR 1910.1009
Benzidine	92-87-5	29 CFR 1910.1010
4-Aminodiphenyl	92-67-1	29 CFR 1910.1011
Ethyleneimine	151-56-4	29 CFR 1910.1012
β-Propiolactone	57-57-8	29 CFR 1910.1013
2-Acetylaminofluorene	53-96-3	29 CFR 1910.1014
4-Dimethyleaminobenzene	60-11-7	29 CFR 1910.1015
N-Nitrosodimethylamine	62-75-9	29 CFR 1910.1016

ATTACHMENT B - SPECIFIC CARCINOGENS COVERED IN 29 CFR 1910

Compound	CAS Number	Reference
Vinyl chloride	75-01-4	29 CFR 1910.1017
Inorganic arsenic	Varies by compound	29 CFR 1910.1018
Chromium (VI)	Varies by compound	29 CFR 1910.1026
Cadmium	Varies by compound	29 CFR 1910.1027
Benzene	71-43-2	29 CFR 1910.1028
1, 2-Dibromo-3-chloropropane	96-12-8	29 CFR 1910.1044
Acrylonitile	107-13-1	29 CFR 1910.1045
Ethylene oxide	75-21-8	29 CFR 1910.1047
Formaldehyde	50-00-1	29 CFR 1910.1048
4,4’-Methylenedianaline	101-77-9	29 CFR 1910.1050
1, 3-Butadiene	106-99-0	29 CFR 1910.1051
Methylene Chloride	75-09-2	29 CFR 1910.1052